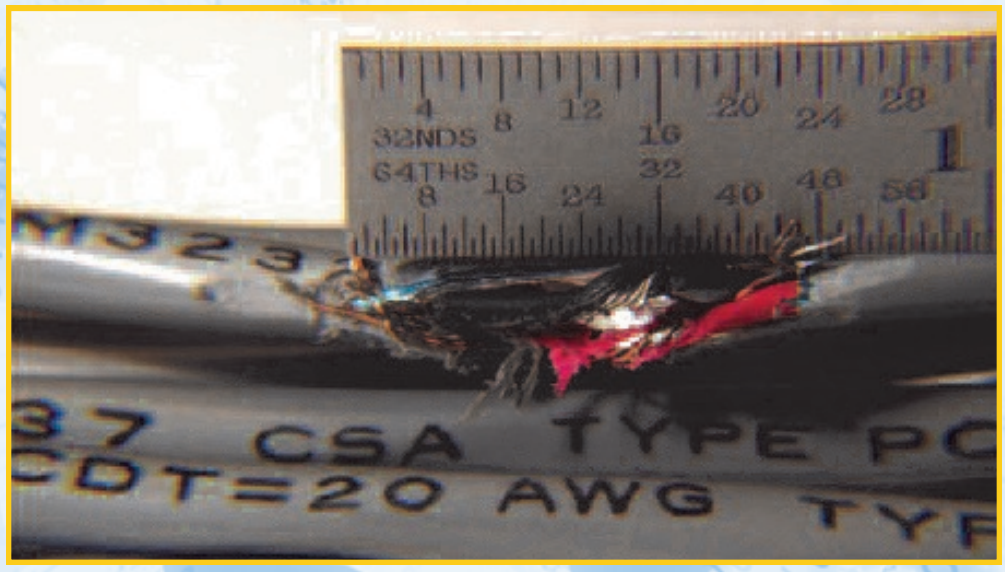
Sandia National Laboratories

Electrical Cable Testing by Pulse-Arrested Spark Discharge (PASD)

Summary

Sandia has developed an advanced electrical wiring diagnostic capable of detecting insulation defects in complex wiring systems. The portable diagnostic system detects and accurately locates hard to find insulation defects as breached insulation, chaffing, and insulation cracks. PASD could greatly reduce the time required to track down wiring defects, as it can typically locate these defects within inches.

The PASD technique uses a high-voltage, low-energy, short pulse to induce an electrical spark breakdown at the site of an insulation defect. The pulse energy is insufficient to damage insulation or the conductors within wiring systems. PASD has been demonstrated to be effective in several challenging environments and has consistently detected wiring system defects which cannot be seen through visual inspection.



Licensing & Partnering Status:

Various license and partnering options are available. Please contact the Intellectual Property department to discuss.

Technology Readiness Level:

Sandia estimates this technology's TRL at level 8. The diagnostic device has been proven to work in its field of use under expected conditions and has achieved actual system completion.

BENEFITS

- Detects and locates insulation defects in complex wiring systems
- Portable automatic system
- Nondestructive diagnostic
- Typically locates defects within inches
- Detects faults which cannot be seen through visual inspection

APPLICATIONS

- Aircraft and aerospace
- Communications
- Construction and maintenance
- Electric Utility
- Mining
- Nuclear power
- Oil and gas
- Public safety
- Transportation and automotive

U.S. PATENT Issued on SD# 7073

- 6853196

INTELLECTUAL PROPERTY & LICENSING CONTACT

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National Nuclear Security Administration

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